

REMARKS

Claim 7 to 9 and new claims 10 and 11 appear in this application for the Examiner's review and consideration. Claims 1 to 6 are canceled without prejudice by this Amendment. Claims 7 to 9 stand withdrawn, as being directed to a non-elected invention. The new claims are fully supported by the specification and claims as originally filed. Therefore, there is no issue of new matter.

Claims 1 to 6 stand rejected on the ground of obvious-type double patenting, as being unpatentable over claim 1 to 3 of U.S. Patent No. 6,808,678 to Murakami et al. (Murakami), for the reasons set forth on pages 2 and 3 of the Office Action; and

Claims 1 to 6 stand rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over the computer generated English translation of Japanese Patent Publication No. 2002-80934 (JP '934), which corresponds to Murakami, for the reasons set forth on page 3 of the Office Action and in the previous Office Actions, dated February 22, 2008, October 11, 2007, and April 26, 2007.

In response, Applicants submit that claims 1 to 6 have been canceled, mooted the rejections of those claims. Accordingly, it is respectfully requested that the Examiner withdraw the rejection of claims 1 to 6 on the ground of obviousness-type double patenting over Murakami and the rejection under 35 U.S.C. § 103(a) over JP '934.

Applicants also respectfully submit that new claims 10 and 11 are patentable over the prior art. As recited in new claim 10, the presently claimed invention is directed to a steel sheet for vitreous enameling excellent in workability, aging properties and enameling properties. The presently claimed steel sheet comprises no more than 0.0025 mass percent carbon; no more than 0.010 mass percent silicon; from 0.1 to 0.5 mass percent manganese; 0.0005 to 0.0033 mass percent nitrogen; from 0.60 times the amount of nitrogen to 0.0060 mass percent boron; from 10 times the difference between the amount of boron and $11/14$ times the amount of nitrogen, $10 \times (B - 11/14 \times N)$, to 0.030 mass percent phosphorous; no more than 0.030 mass percent sulfur, no more than 0.010 mass percent aluminum, 0.005 to 0.0450 mass percent oxygen, and a balance of Fe and unavoidable impurities. The steel sheet contains simple or compound nitrides, having a diameter of 0.02 to 0.50 μm , containing boron or aluminum, and having an average diameter of at least 0.080 μm . The proportion of the number of the nitrides of 0.050 μm or smaller in diameter to the total number of the nitrides is 10 percent or less. The ratio of the amount of nitrogen in the steel sheet existing as boron nitride, BN, to the amount of nitrogen in the steel sheet existing as aluminum boron

nitride AlN, (the amount of N existing as BN)/(the amount of N existing as AlN), is at least 0.50. The steel sheet comprises nickel plating on the steel sheet and beneath the enameling in an amount of about 0.01 to 2 g/m². As will be understood by those skilled in the art, the lower limit for the amount of phosphorous will be 0 when the amount of boron, B, is less than or equal to 11/14 times the amount of nitrogen, N, and the lower limit of the amount of phosphorous will be 10 x (B - 11/14 x N) when B is greater than 11/14 x N.

In contrast to the presently claimed steel sheet, Murakami and JP '934 disclose steel plate for enameling. The steel plate contains, by weight, carbon: not more than 0.0018%, silicon: not more than 0.020%, manganese: 0.10 to 0.30%, phosphorus: 0.010 to 0.030%, sulfur: not more than 0.030%, aluminum: not more than 0.005%, nitrogen: 0.0008 to 0.0050%, boron: not more than 0.0050% and not less than 0.6 time the nitrogen content, and oxygen: 0.010 to 0.05%. The chemical composition of the steel and the mainly hot rolling conditions are regulated to regulate the form of nitrides. Murakami and JP '934 do not disclose or suggest nickel plating on the steel sheet and beneath the enameling in an amount of about 0.01 to 2 g/m², as presently claimed. Therefore, Murakami and JP '934 fail to provide any reason for one of ordinary skill in the art to make or use the presently claimed steel plate.

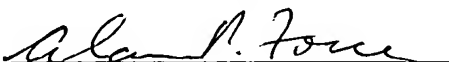
Accordingly, as Murakami and JP '934 do not provide any reason for one of ordinary skill in the art to make and use the presently claimed steel plate, the present claims are not obvious over those references.

Applicants thus submit that the entire application is now in condition for allowance, an early notice of which would be appreciated. Should the Examiner not agree with Applicants' position, a personal or telephonic interview is respectfully requested to discuss any remaining issues prior to the issuance of a further Office Action, and to expedite the allowance of the application.

A separate Petition for Extension of Time is submitted herewith. Should any other fees be due, however, please charge such fees to Deposit Account No. 11-0600.

Respectfully submitted,
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Date: August 11, 2009

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